Introduction to Information Technology

1	Subject Name	Introduction to IT
2	Course Code	BIT-111
3	Teaching Hours/week	3 hr
4	Practical /week	
5	Credits	3
6	Reference Book	Understanding Computers: Today and Tomorrow Computer fundamentals by P.K. Sinha
7	Teaching method	Lecture & Problem Based Learning
8	Subject Status	C
9	Prerequisite	

Course Description

This course provides a general introduction to computers, applications software, programming, hardware and computer information systems. Emphasis will be placed on computer literacy topics such as hardware, software, operating systems, programming languages, data communications, applications software and information systems. This course is suitable for students who wish to use the computer as a tool for problem solving.

Learning Objectives

To provide a fundamental knowledge of Computer Science, this includes evolution of computers and its various components and applications. This subject also gives a complete overview of fields where computer science is used. After completion of this course, Students should get an idea about their field of specialty and the subjects and topics covered in their bachelor degree.

Week 1	Introduction /Block Diagram Computer fundamental

Week 2	Generation of computers • First generation of computer • Second generation of computer • Third generation of computer • Fourth generation of computer • Fifth generation of computer
Week 3	Types of Computer • Classification according to Logic used • Classification according to size • Super Computers • Mainframe Computers • Mini Computer • Micro Computers
Week 4	Software • Application software • System software Hardware • Internal hardware • External hardware
Week 5	Input Devices • Keyboard • Mouse • Scanner • Touch Screen • Microphone
Week 6	Output Devices • Monitors • Loudspeakers • Touch Screen • Printer and its types
Week 7	Inside the System Unit • Processor & its Internal units • Buses • System clock
Week 8	• Adapter cards o Sound card o Video card • Drive bays • Power supply
MID TERM EXAMINATION	

Week 9	Memory: • Types of Memory: o Primary Memory ▪ RAM & Its Types • Static RAM • Dynamic RAM ▪ Cache memory and its types ▪ ROM o Secondary Memory & its types
Week 10	Number System Conversions • Decimal to Binary • Binary to decimal • Decimal to octal • Octal to decimal • Decimal to hexadecimal • Hexadecimal to decimal
Week 11	Conversions • Octal to binary • Binary to octal • Hexadecimal to binary • Binary to hexadecimal • Octal to hexadecimal • Hexadecimal to octal
Week 12	Computer Networks • Introduction to networking 1. Types of Networks o Local Area Network o Wide Area Network 2. Network topologies o Bus Topology o Ring Topology o Ring Topology
Week 13	Database • Introduction to Database • Components of a database • Types of Database Programs o File management programs o DBMSs o RDBMSs o Data warehouses o Client/server database systems

Week 14	Software Engineering • Introduction to Software Engineering – • What is-Software, Software Engineering, Software Process • Elements of Software Design Life Cycle (SDLC)
Week 15	Operating systems • What is OS • Types of OS according to Role (Server OS & Client OS) • Types of OS according to task • Types of OS according to source code (Open Source & Non-Open source)
Week 16	Computer Viruses • Types of Computer viruses (Trojan horses, Worms & Viruses) • Protection from viruses (Anti Viruses)

Assessment

1) Midterm exams 20 %
2) Attendance and group work 10 %
3) Projects, presentations, and other tasks 10 %
4) Final Exam 60 %

Total Marks: 100

Recommended Books:

1. Sanders, Donald H. Computers today 3rd Edition McGraw Hill, 1998
2. Lonnie Mastering office 1997 BPB Publishing, 1997
3. Parker, Charles s. Computers, and their application, 3rd Edition,

4. Larry Long, Nancy Long Computers. National Book foundation Pakistan 6th Edition, 2000.